

## **REMARKS**

### **Status of the Application**

Per the Non-final Office Action dated August 3, 2004, Claims 11-21 are pending in the above-referenced patent application; Claim 19 and the specification stand as objected to by the Examiner, Claims 11-16 and 18-21 stand as rejected under 35 U.S.C. §102(b); and Claims 11-21 stand as rejected under 35 U.S.C. §103(a).

Applicants have amended Claims 11, 12, 19 and 21 and canceled Claims 13, 14 and 15 only to provide further clarity regarding the present invention. Support for amended Claims 11 and 12 is found in original Claims 14 and 15 and in the specification on page 7, lines 32-35. Support for amended claim 21 is found in the specification on page 6, line 1 through page 7, line 11.

### **Objections To The Claims and Specification**

Claim 19 is objected to by the Examiner alleging the term "dimmer" in lines 2 and 4 should be changed to "dimer".

Applicants have amended Claim 19 to recite the term "dimer" in lines 2 and 4, wherein such amendment was done solely for reasons of clarity and not for reason of patentability.

The Examiner has objected to the specification as failing to provide proper antecedent basis for the claimed subject matter. The Examiner alleges that correction of the following is required: "cycloaliphatic polyols having 3-6 hydroxyl groups of Claim 17 are not in the body of the disclosure. Polyols recited on page 3, lines 8-13 of the specification as filed such as glycerol, trimethylolpropane, pentaerithryol, etc. are not cycloaliphatic polyols. Amendment of the disclosure to incorporate the language of originally filed claims does not raise issue of new matter."

Applicants respond that the terminology "(cyclo)aliphatic polyols" is well known to those in the art, wherein this terminology describes either a cycloaliphatic polyol or an aliphatic polyol. Additionally, it is well known in the art that glycerol is an

aliphatic polyol, and thus, Applicants believe that the present specification does provide adequate antecedent basis for the claimed subject matter. Accordingly, Applicants have submitted herewith U.S. Patent 6,368,719 (Siever et al.) as evidence that such terminology is well known in the art, where Siever et al. utilize the term "(cyclo)alkyl(meth)acrylates" (see column 4, lines 29-37), where several representative compositions are provided.

### **Rejections Under 35 U.S.C. §102/103**

Claims 11-16 and 18-21 stand as rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent 6,063,448 (Duecoffre et al.).

Applicants believe that Duecoffre teaches away from the present invention. Duecoffre teaches a process for coating using a base coat/clear coat two-layer coating, where the clear coat is applied from a clear coating agent on the basis of a hydroxyl-functional binder, which is a hybrid of (meth)acrylic copolymer and polyester polyol, however, the (meth)acrylic copolymer is prepared in the presence of the polyester polyol. In the case of Duecoffre, the binders are different than a simple mixture of a (meth)acrylic copolymer and polyester polyol.

The Examiner appears to allege that the polyester polyol described in Duecoffre is similar to the polyester polyol (a) of the present invention. However, Duecoffre's clear coat does not contain a polyester polyol, but instead contains a hybrid binder comprising polyester polyol as one part in which the second part (i.e. the (meth)acrylic copolymer portion) has been prepared by free-radical polymerization. The degree of entanglement of the two different polymer chains is greater in the hybrid binder than is observed in a simple mixture. Additionally, both of the polymer portions of the hybrid binder may be covalently bonded. The radical polymerization of the monomer mixture builds up the vinyl polymer portion of the hybrid binder. This may be a copolymerization or graft polymerization of the olefinically unsaturated monomers with or onto olefinic double bonds of the polyester resin, or polymerization occurs in the presence of a polyester resin free of olefinic double bonds, or there is a graft polymerization of the olefinically unsaturated monomers onto the polyester portion of the polyester/vinyl polymer hybrid binder initiated by hydrogen abstraction of the polyester resin. Thus, Duecoffre does not

teach polyester polyol (a) of the present invention, but instead teaches hybrid polymers.

Moreover, Duecoffre teaches away from the present invention in that the polyester polyol of the present invention is non-aromatic. Duecoffre teaches that aromatic acids as polyester constituents are suitable for use, for example in column 6, lines 18-28 which describes the use of isomeric phthalic acids and 1,4-cyclohexanedicarboxylic acid. The use of such acids is clearly not permitted in the present invention as is set forth in Claim 11, part (a) and Claim 12, part (a).

Additionally, the present invention in Claim 11 part (c) and Claim 12, part (c) the calculated hydroxyl functionality for the polyester polyol is from 4.5 to 10. However, Duecoffre is silent with regard to the hydroxyl functionality of the present invention, and therefore, Duecoffre does not teach or suggest the present invention.

Also, Duecoffre teaches away from the claimed quantitative composition of components (a1) and (a2) of the present invention, which require that the hydroxyl components and carboxyl components comprise no more than 20 wt-% of at least one diol and at least one monocarboxylic acid, respectively. To the contrary, Example 1 of Duecoffre comprises 57.8 wt-% of monocarboxylic acid (isononanoic acid) among the carboxyl components and Example 2 of Duecoffre comprises 57 wt-% diol (hexane diol) among the hydroxyl components. In these Examples, both values (the 57.8 wt-% and 57 wt-%) are far above the upper limit disclosed in the present invention, which is 20 wt-% in either case. This upper limit is set at 20 wt-% to ensure the high level of hydroxyl-functionality of the final polyester of the present invention.

Thus, Applicants respectfully request that the rejection be withdrawn.

Claim 11 stands as rejected under 35 U.S.C. §102(b) as anticipated by, or in the alternative, under 35 U.S.C. §103(a) as obvious over U.S. Patent 6,063,448 (Duecoffre et al.).

Initially, Applicants wish to indicate that the Examiner has included Miyabayashi et al. in the discussion of this rejection, although Claim 11 has not been

rejected over the specific combination of Duecoffre and Miyabayashi. However, even if the Examiner proffered this combination of references, such a combination would not render the present invention obvious. In the interests of expediting prosecution, Applicants offer the following remarks. As noted above, Duecoffre teaches away from the present invention because Duecoffre describes hybrid polymers rather than the mixtures of the present invention. Thus, the use of polyesters described in Miyabayashi in the teachings of Duecoffre would again result in hybrid polymers rather than a simple mixture of a (meth)acrylic copolymer and polyester polyol. Additionally, Miyabayashi neither teaches nor suggests that the polyesters described therein are suitable for use as a binder in clear coats for base coat/clear coat two-layer coating having the properties of the present invention. Therefore, Applicants respectfully request that the rejection be withdrawn.

Claims 12, 13, 16 and 18-21 stand as rejected under 35 U.S.C. §102(b) as anticipated by, or in the alternative under 35 U.S.C. §103(a) as obvious over U.S. Patent 4,880,890 (Miyabayashi et al.).

Applicants respond that Claim 12 (as well as Claims 13, 16 and 18-21, all of which depend from Claim 12) of the present invention is directed to a process for forming a coating layer as one coating layer of a multi-layer coating comprising: applying to a substrate a coating layer comprising a coating agent and curing said coating layer, wherein the substrate is an automotive body or part having a color-imparting and/or special effect-imparting base coat and the coating agent applied thereon as a transparent clear coat. However, Miyabayashi does not teach or suggest the preparation of base coat/clear coat two-layer coatings where the substrate is an automotive body or part. Thus, Applicants respectfully request that the rejection be withdrawn.

Claim 11 stands as rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 4,880,890 (Miyabayashi et al.).

Applicants respond that Claim 11 of the present invention is directed to a process comprising applying a multi-layer coating on a substrate, wherein the substrate is an automotive body or part having a color-imparting and/or special

effect-imparting base coat and the coating agent applied thereon as a transparent clear coat using a coating agent and curing said coating. However, Miyabayashi does not teach or suggest the preparation of base coat/clear coat two-layer coatings where the substrate is an automotive body or part. Thus, Applicants respectfully request that the rejection be withdrawn.

Claims 14 and 15 stand as rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 4,880,890 (Miyabayashi et al.) in view of U.S. Patent 5,023,141 (Willey).

Applicants note that Claims 14 and 15 have been canceled, however in the interests of expediting prosecution, Applicants offer the following remarks. As noted by the Examiner, "Miyabayashi et al fail to teach that the polyester primer is colored base coat (Claim 14); and the substrate is automotive body and body parts Claim 15)." Applicants do not believe that the combination of Miyabayashi with Willey teaches or suggests the present invention. The present invention utilizes a color-imparting and/or special effect-imparting base coat while Willey is directed to a primer composition and such compositions are not generally interchangeable. Therefore the combination does not teach or suggest the preparation of automotive coatings having a color and/or special effect imparting base coat as a first layer and clear coat as an external layer. Thus, Applicants respectfully request that the rejection be withdrawn.

Claim 17 stands as rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,063,448 (Duecoffre et al.) in view of JP 08239458 (Abstract).

As noted by the Examiner, "Duecoffre et al, as applied above, fail to teach that cycloaliphatic polyol having 3-6 hydroxyl groups can be used as polyol." Thus, the Examiner combines Duecoffre with JP 08239458 (Abstract). The Examiner asserts that JP 08239458 (Abstract) teaches that alicyclic (cycloaliphatic) polyols having at least 3 hydroxyl groups can be used for reacting the itaconic, maleic, or fumaric acids to make polyester polyol. However, Applicants believe that Duecoffre teaches away from the present invention and thus reiterate those remarks set forth above. Duecoffre teaches a process for coating using a base coat/clear coat two-layer

coating, where the clear coat is applied from a clear coating agent on the basis of a hydroxyl-functional binder, which is a hybrid of (meth)acrylic copolymer and polyester polyol, however, the (meth)acrylic copolymer is prepared in the presence of the polyester polyol. In the case of Duecoffre, the binders are different than a simple mixture of a (meth)acrylic copolymer and polyester polyol. Thus, the combination of Duecoffre and JP 08239458 (Abstract) would continue to result in hybrid polymers rather than the simple mixture utilized in the present invention. Therefore, Applicants do not believe that the combination teaches or suggests the present invention, and thus, respectfully request that the rejection be withdrawn.

Claim 17 stands as rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 4,880,890 (Miyabayashi et al.) in view of JP 08239458 (Abstract).

Applicants respond that Claim 17 depends from Claim 12 of the present invention, which is directed to a process for forming a coating layer as one coating layer of a multi-layer coating comprising applying to a substrate a coating layer comprising a coating agent and curing said coating layer, wherein the substrate is an automotive body or part having a color-imparting and/or special effect-imparting base coat and the coating agent applied thereon as a transparent clear coat. However, the combination of Miyabayashi and JP 08239458 (Abstract) does not teach or suggest the preparation of base coat/clear coat two-layer coatings where the substrate is an automotive body or part. Thus, Applicants respectfully request that the rejection be withdrawn.

### **Summary**

In view of the foregoing remarks, Applicants submit that the Examiner's rejections have been properly traversed, accommodated, or rendered moot, and a full and complete response has been made to the outstanding Office Action dated August 3, 2004. A Notice of Allowance is respectfully solicited. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

A fee for a three-month Extension of Time of the period for reply is due in connection with the filing of this Response. However, should a fee be due which is not accounted for, please charge such fee to Deposit Account No. 04-1928 (E.I. du Pont de Nemours and Company).

Respectfully submitted,



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